

AMENDMENTS TO THE CLAIMS

This listing of claims will replace all prior versions, and listings of claims in the application:

LISTING OF CLAIMS:

1. (Currently amended) A method of ~~automatically detecting registration parameters for electronically registering documents supported by a~~ selected backing surface, comprising:

receiving image data comprising a representative sample of the backing surface, the backing surface image data including chrominance values in multiple channels for selected pixel locations along a scanline;

determining ~~[[an]]~~ average chrominance values for each of the multiple channels;

selecting a registration channel based on the average chrominance values;

~~determining a chrominance deviation for the registration channel; and~~

determining a registration parameter based on at least the average chrominance value ~~and the chrominance deviation~~ of the registration channel; and

identifying a relative positioning within a scan for a captured image data pixel based upon a comparison of an image data chrominance value and said registration parameter.

Application No. 10/615,088

2. (Currently amended) The method of claim 1, wherein the step of selecting a registration channel ~~selects the~~ includes selecting a chrominance channel having a low average chrominance value ~~as the registration channel~~.

3. (Currently amended) The method of claim 1, wherein the step of selecting a registration channel ~~selects~~ includes selecting a chrominance channel having an average chrominance value below a threshold chromacity ~~the registration channel~~.

4. (Canceled)

5. (Currently amended) The method of claim 1, ~~wherein the step of determining a registration parameter comprises:~~ further comprising:

~~determining a registration parameter value for a black average register (BAR)~~
registration parameter as a function of the average chrominance value of the registration channel; and

identifying image data positioned outside an input document edge based upon a comparison of an image data chrominance and said black average register registration parameter.

~~determining a registration parameter value for a step change register (SCR)~~
~~as a function of the chrominance deviation of the registration channel; and~~

~~determining a registration parameter value for a white average register (WAR)~~
~~as a function of as both the average chrominance value and the chrominance deviation of the registration channel.~~

Application No. 10/615,088

6. (Currently amended) The method of claim 520, wherein the black average register (BAR) is set to equal the average chrominance value of the registration channel, the step change register (SCR) is set to equal the chrominance deviation for the registration channel and the white change register (WAR) is set to equal to sum of average chrominance value and chrominance deviation of the registration channel.

7. (Canceled)

8. (Canceled)

9. (Currently amended) The method of claim 1, ~~wherein the step of determining a registration parameter generates~~ further comprising:

determining a chrominance deviation for the registration channel; and
generating a chrominance deviation threshold based on the chrominance deviation for the registration channel.

10. (Original) The method of claim 1, wherein the backing surface comprises a ski, the ski being adapted to be removably attached to a document handler.

Application No. 10/615,088

11. (Withdrawn) A method of electronic registration using multiple channels, comprising:

receiving scanned image data for a plurality of channels, the image data for each channel including a plurality of scanlines with each scanline including pixel data for selected locations along the scanline.

performing an edge detection operation using image data from a first channel to identify a first detected edge;

performing an edge detection operation using image data from a second channel to identify a second detected edge; and

performing a resolution operation to identify an actual document edge from the first detected edge and the second detected edge.

12. (Withdrawn) The method of claim 11, wherein the pixel data for the first channel provides a gray level value.

13. (Withdrawn) The method of claim 12, wherein the pixel data for the second channel provides a chrominance value.

14. (Withdrawn) The method of claim 12, wherein the pixel data for the second channel provides gray level values.

15. (Withdrawn) The method of claim 11, wherein the pixel data for the first channel provides a chrominance value.

16. (Withdrawn) The method of claim 11, wherein the step of performing a resolution operation generates the actual document edge as a function of an average of the first detected edge and the second detected edge.

17. (Withdrawn) The method of claim 11, wherein the step of performing a resolution operation generates the actual document edge as a function of a precedence model.

Application No. 10/615,088

18. (Withdrawn) The method of claim 11, wherein the step of performing a resolution operation generates the actual document edge from the first detected edge and the second detected edge based upon an expected edge location.

19. (New) The method of claim 5 further comprising:

determining a chrominance deviation for said registration channel;

determining a white average register (WAR) registration parameter as a function of said average chrominance value and said chrominance deviation; and

identifying image data positioned inside an input document edge based upon a comparison of an image data chrominance value and said white average register registration parameter.

20. (New) The method of claim 19 further comprising:

determining a step change register (SCR) registration parameter as a function of said chrominance deviation; and

identifying image data corresponding to an input document edge based upon a comparison of said step change register registration parameter to a difference between said input document corresponding image data chrominance value and said backing surface corresponding image data chrominance value.

Application No. 10/615,088

21. (New) A method of automatically detecting an edge of an input document supported by a selected backing surface, comprising:

detecting a scanner backing surface chrominance value;

determining an average backing surface chrominance value and a color difference value;

selecting a low chrominance contribution channel as a registration channel;

capturing image data including pixels representing the input document and pixels representing the backing surface; and

identifying a backing surface corresponding image data pixel based upon a comparison of said backing surface chrominance value and a chrominance value for said image data pixel.

22. (New) A method as claimed in claim 21 further comprising:

determining an input document threshold value; and

identifying an input document corresponding location based upon a comparison of said input document threshold and to said image data pixel chrominance.

23. (New) A method as claimed in claim 22, further comprising:
- determining a chrominance deviation threshold for identifying document edge corresponding image data; and
 - identifying document edge corresponding image data pixels based upon a comparison of said chrominance deviation threshold to a difference in chrominance value for an input document corresponding pixel and a backing surface corresponding pixel.